Abstract of the Disclosure

An electrically isolated, combined power and signal coupler, for a patient connected device, is disclosed. A docking station and a portable device, capable of docking with the docking station each include a power coupler and an electrically isolated data transducer. The respective power couplers include a magnetically permeable element including a central pole and a peripheral pole and a printed circuit board with an opening through which the central pole protrudes. The printed circuit board includes windings surrounding the central pole opening: a primary winding in the docking station and a secondary winding in the portable device. When the portable device is docked with the docking station, the magnetically permeable element in the portable device and the magnetically permeable element in the docking station are arranged to form a magnetic circuit, and the data transducer in the portable device and the data transducer in the docking station are arranged to exchange data.